

WHAT IS CLAIMED IS:

1. A method for making a circuit assembly which includes at least one magnetic device comprising the steps of:

a) providing first and second parts of a magnetic body and a substrate having first and second major surfaces, the substrate including an aperture therethrough and a conductive coil extending peripherally around the aperture;

b) bonding the first part of the magnetic body to the first major surface overlying the aperture;

c) applying adhesive material to the portion of the first part exposed through the aperture;

d) pressing the second part of the magnetic body through the aperture into contact with the adhesive on the first part and, under pressure, rotating the second part in relation to the first part in a reciprocating manner to spread the adhesive into a thin, uniform film; and

e) curing the adhesive without clamping to bond together the first and second parts.

2. The method of claim 1 wherein the first surface substrate includes a plurality of solder bonding pads and one or more electronic components are solder bonded to the first surface prior to step c.

3. The method of claim 2 wherein the first part and the one or more electronic components are applied to the first surface by pick-and-place surface mounting.

4. The method of claim 1 wherein the second surface includes a plurality of solder bonding pads and one or more electronic components are solder bonded to the second surface.

5. The method of claim 1 wherein the pressing in step c is at a pressure in the range 1-20N.
6. The method of claim 1 wherein the rotation is at an amplitude in the range 1-5° and the reciprocation is at a frequency of 1-10 Hz for a duration of 1-5 s.
7. The method of claim 2 wherein the first part is bonded to the substrate and the circuit components are solder bonded to the first surface in a common heating step.
8. The method of claim 4 wherein the second part is bonded to the first part and the circuit components are solder bonded to the second surface in a common heating step.
9. The method according to claim 1 wherein the first part of the magnetic body comprises a flat core ferrite body and the second part of the magnetic body comprises an E core ferrite body.
10. The method according to claim 1 wherein the first part of the magnetic body comprises an E core ferrite body.